



COMPOUND: 748

POLYMER: Ultra High Molecular Weight Polyethylene (UHMW-PE)

DESCRIPTION: Ultra High Molecular Weight Polyethylene (UHMW-PE) Compression Molded & Extruded Stock Shapes and Machined parts

Property	Test Method	Typical Values	Units
Specific Gravity	ASTM D792	0.93	-
Hardness	ASTM D2240 ASTM D785	68 52	SHORE-D ROCKWELL R
Tensile Strength at Break	ASTM D638	6,000 (41.37)	PSI (MPa)
Elongation at Break	ASTM D638	300	%
Tensile Modulus	ASTM D638	80,000 (551.58)	PSI (MPa)
Shear Strength	ASTM D732	4,000 (27.58)	PSI (MPa)
Compressive Strength	ASTM D695	4,300 (29.65)	PSI (MPa)
Compressive Modulus	ASTM D695	80,000 (551.58)	PSI (MPa)
Flexural Strength	ASTM D790	3,500 (24.13)	PSI (MPa)
Flexural Modulus	ASTM D790	110,000 (758.42)	PSI (MPa)
Charpy Impact Strength Notched	ASTM D256	No Break	FT.LB/INCH
Service Temperature Max. Continuous Minimum		180 (110) -328 (-200)	°F (°C)
Heat Deflection Temperature Method A @ 264 PSI (1.8 MPa) @66 PSI (0.46 MPa)	ASTM D648	116 (46.7) 174 (78.9)	°F (°C)
Coefficient of Linear Thermal Expansion	ASTM D696	11.0 X 10 ⁻⁵	INCH/INCH/°F
Coefficient of Friction Static Dynamic	ASTM D1894	0.15 / 0.20 0.10/.14	
Water Absorption at Saturation, 24 Hours		< 0.1	%

REVISION HISTORY

REV. NONE – Initial Release, 08-29-1989, BJ
REV. A – Modified some typical property values & data sheet format, 7-02-2020 RSK

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